

THE UNITED SHATES OF AMERICA

to au to vuom tuese presents suau come: Speight Seed Harms, Inc.

HUCCUS, THERE HAS BEEN PRESENTED TO THE

Secretary of Agriculture

AN APPLICATION REQUESTING A CERTIFICATE OF PROTECTION FOR AN ALLEGED DISTINCT VARIETY OF SEXUALLY REPRODUCED, OR TUBER PROPAGATED PLANT, THE NAME AND DESCRIPTION OF WHICH ARE CONTAINED IN THE APPLICATION AND EXHIBITS, A COPY OF WHICH IS HEREUNTO ANNEXED AND MADE A PART HEREOF, AND THE VARIOUS REQUIREMENTS OF LAW IN SUCH CASES MADE AND PROVIDED HAVE BEEN COMPLIED WITH, AND THE TITLE THERETO IS, FROM THE RECORDS OF THE PLANT VARIETY PROTECTION OFFICE, IN THE APPLICANT(S) INDICATED IN THE SAID COPY, AND WHEREAS, UPON DUE EXAMINATION MADE, THE SAID APPLICANT(S) IS (ARE) ADJUDGED TO BE ENTITLED TO A CERTIFICATE OF PLANT VARIETY PROTECTION UNDER THE LAW.

NOW, THEREFORE, THIS CERTIFICATE OF PLANT VARIETY PROTECTION IS TO GRANT UNTO THE SAID APPLICANT(S) AND THE SUCCESSORS, HEIRS OR ASSIGNS OF THE SAID APPLICANT(S) FOR THE TERM OF TWENTY YEARS FROM THE DATE OF THIS GRANT, SUBJECT TO THE PAYMENT OF THE REQUIRED FEES AND PERIODIC REPLEMISHMENT OF VIABLE BASIC SEED OF THE VARIETY IN A PUBLIC REPOSITORY AS PROVIDED BY LAW, THE CHILTO EXCLUDE OTHERS FROM SELLING THE VARIETY, OR OFFERING IT FOR SALE, OR REPRODUCING IT, OR STOCKING IT, OR CONDITIONING IT FOR PROPAGATION, OR STOCKING IT FOR ANY OF THE PURPOSES, OR USING IT IN PRODUCING A HYBRID OR DIFFERENT VARIETY THEREFROM, TO THE EXTENT BY THE PLANT VARIETY PROTECTION ACT. (84 STAT. 1542, AS AMENDED, 7 U.S.C. 2321 ET SEQ.)

TOBACCO

'Speight 210'

In Testimonn Marrest, I have hereunto set my hand and caused the seal of the Flant Anriety Protection Office to be affixed at the City of Washington, D.C. this ninth day of March, in the year two thousand and seven.

Allost:

Benzu

Commissioner Plant Variety Protection Office Agricultural Marketing Service Liculture .

U.S. DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE
SCIENCE AND TECHNOLOGY - PLANT VARIETY PROTECTION OFFICE

The following state nents are made in accordance with the Privacy Act of 1974 (5 U.S.C. 552a) and the Paperwork Reduction Act (PRA) of 1995.

(Instructions and information collection burden statement	CERTIFICAT on reverse)		quired in order to determine if a Information is held confidential	uniii ceninci	are is issued (7 U.S.C	. 2426).	
SPEIGHT SEED FARMS, INC			2. TEMPORARY DESIGNATE EXPERIMENTAL NAME SPEIGHT 21	_	3. VARIETY NAME SPEIGHT		
4 ADDRESS (Street and No., or R.F.D. No., City, State, and ZIP Code, and Count	try)		5. TELEPHONE (include are	a code)	FOR OFFICIA	I TICE OF	
3719 SPEIGHT SEED FARM WINTERVILLE, NC. 28590	ROAD.		252-7560718 6. FAX (include area code)		100 mgen	0 0	6
			252 -7 56-869	.0			<u>.</u>
7 IF THE OWNER NAMED IS NOT A "PERSON", GIVE FORM OF ORGANIZATION (corporation, partnership, association, etc.)	B. IF INCORPOR	ATED, GIVE	9. DATE OF INCORPORATION		FILING DATE		
SPEIGTH SEED FARMS, INC.		CORPORATION CAROLINA	11-1-72		1/4/20	5	
RACHEL S. SNYDER PO BOX. 1250 WINTERVILLE, NC. 28590-	S APPLICATION. (Fi				FILING AND EXPERS: F S 3652 B DATE 1-1 C CERTIFICATION VE S 768	co 1- Zc	
11 TELEPHONE (Include area code) 12. FAX (Include area code)	13. E_	MAIL	:	14. CROP	KIND (Common Na.	ne)	
<u>252-756-07-18</u> <u>252-</u> 756-8699				FLUI	ECURED TO	BAC	0
15 GENUS AND SPECIES NAME OF CROP	16. FA	MILY NAME (Botanica	0	17. IS THE	E VARIETY A FIRST	GENERAT	TION
NICOTIANA TABACUM .	SC	LANACEAE		HYBRII [7 10 NO	
Exhibit A. Origin and Breeding History of the Variety Exhibit B. Statement of Distinctness Exhibit C. Objective Description of Variety Exhibit D. Additional Description of the Variety (Optional) Exhibit E. Statement of the Basis of the Owner's Ownership Voucher Sample (2,500 viable untreated seeds or, for tuber propagated verification that ussue curture will be depositied and maintained in an appropriate (Philosophia) Filing and Examination Fee (\$2,450), made payable to "Treasurer of the States" (Mail to the Plant Variety Protection Office)	l varieties, proved public	20. DOES THE OWN OF GENERATI	ES (II 'yes', answeritems 20 nd 21 below) WER SPECIFY THAT SEED OF ONS?	THIS VARI	nely Protection Act) NO (If "no," go in IETY BE LIMITED AS	TO NUME	
22. HAS THE VARIETY (INCLUDING ANY HARVESTED MATERIAL) OR A HYBRID F FROM THIS VARIETY BEEN SOLD, DISPOSED OF, TRANSFERRED, OR USED OTHER COUNTRIES?	RODUCED	23. IS THE VARIET	Y OR ANY COMPONENT OF T	WE MADES	V DE OTSOTSO OV I	VIELLECT	TI IAI
OTHER COUNTRIES? TX YES IF YES, YOU MUST PROVIDE THE DATE OF FIRST SALE, DISPOSITION, TRANFOR EACH COUNTRY AND THE CIRCUMSTANCES. (Please use space indicate		☐ YE	SITE (FLARE BREEDER'S RIGH	II OR PATE	:N1)7 (] NO		
24 The owners declare that a viable sample of basic seed of the variety will be furnish for a tuber propagated variety a tissue culture will be deposited in a public reposito. The undersigned owner(s) is(are) the owner of this sexually reproduced or tuber pn and is entitled to protection under the provisions of Section 42 of the Plant Variety 6 Owner(s) is(are) informed that false representation herein can jeopardize protection.	ed with application a ory and maintained to opagated plant varie Protection Act.	and will be replenished to the duration of the output of t	upon request in accordance with	such regula	ations as may be app		
SIGNATURE OF OWNER		SIGNATURE OF OV	NER	·	## *	· ·	-
SPEIGHT SEED FARMS, INC. RACHEL	S. SNYD	ER					
PRESIDENT Rachel S. In de	w	NAME (Please print o	or type)				
CAPACITY OR TITLE					,		

GENERAL: To be effectively filed with the Plant Variety Protection Office (PVPO), ALL of the following items must be received in the PVPO: (1) Completed application form signed by the owner; (2) completed exhibits A, B, C, E; (3) for a seed reproduced variety at least 2,500 viable untreated seeds, for a hybrid variety at least 2,500 untreated seeds of each line necessary to reproduce the variety, or for tuber reproduced varieties verification that a viable (in the sense that it will reproduce an entire plant) tissue culture will be deposited and maintained in an approved public repository; (4) check drawn on a U.S. bank for \$3,652 (\$432 filing fee and \$3,220 examination fee), payable to "Treasurer of the United States" (See Section 97.6 of the Regulations and Rules of Practice.) Partial applications will be held in the PVPO for not more than 90 days, then returned to the applicant as unfiled. Mail application and other requirements to Plant Variety Protection Office, AMS, USDA, Room 401, NAL Building, 10301 Baltimore Avenue, Beltsville, MD 20705-2351. Retain one copy for your files. All items on the face of the application are self explanatory unless noted below. Corrections on the application form and exhibits must be initialed and dated. DO NOT use masking materials to make corrections. If a certificate is allowed, you will be requested to send a check payable to "Treasurer of the United States" in the amount of \$432 for issuance of the certificate. Certificates will be issued to owner, not licensee or agent. 2005000

Plant Variety Protection Office Telephone: (301) 504-5518 FAX: (301) 504-5291

Homepage: http://www.ams.usda.gov/science/pvpo/pvp.htm

ITEM

18a. Give:

- (1) the genealogy, including public and commercial varieties, lines, or clones used, and the breeding method;
- (2) the details of subsequent stages of selection and multiplication;

(3) evidence of uniformity and stability; and

- (4) the type and frequency of variants during reproduction and multiplication and state how these variants may be identified
- 18b. Give a summary of the variety's distinctness. Clearly state how this application variety may be distinguished from all other varieties in the same crop. If the new variety is most similar to one variety or a group of related varieties:
 - (1) identify these varieties and state all differences objectively:
 - (2) attach statistical data for characters expressed numerically and demonstrate that these are clear differences; and
 - (3) submit, if helpful, seed and plant specimens or photographs (prints) of seed and plant comparisons which clearly indicate distinctness.
- 18c. Exhibit C forms are available from the PVPO Office for most crops; specify crop kind. Fill in Exhibit C (Objective Description of Variety) form as completely as possible to describe your variety.
- 18d. Optional additional characteristics and/or photographs. Describe any additional characteristics that cannot be accurately conveyed in Exhibit C. Use comparative varieties as is necessary to reveal more accurately the characteristics that are difficult to describe, such as plant habit, plant color, disease resistance. etc.
- 18e. Section 52(5) of the Act requires applicants to furnish a statement of the basis of the applicant's ownership. An Exhibit E form is available from the PVPO.
- 19. If "Yes" is specified (seed of this variety be sold by variety name only, as a class of certified seed), the applicant MAY NOT reverse this affirmative decision after the variety has been sold and so labeled, the decision published, or the certificate issued. However, if "No" has been specified, the applicant may change the choice. (See Regulations and Rules of Practice, Section 97.103).
- 22. See Sections 41, 42, and 43 of the Act and Section 97.5 of the regulations for eligibility requirements.
- 23. See Section 55 of the Act for instructions on claiming the benefit of an earlier filing date.
- 21. CONTINUED FROM FRONT (Please provide a statement as to the limitation and sequence of generations that may be certified.)

22. CONTINUED FROM FRONT (Please provide the date of first sale, disposition, transfer, or use for each country and the circumstances, if the variety (including any harvested material) or a hybrid produced from this variety has been sold, disposed of, transferred, or used in the U.S. or other countries.)

> NONE SOLD OUTSIDE OF UNITED STATES JANUARY 6, 2004. FIRST SALE UNITED STATES.

23. CONTINUED FROM FRONT (Please give the country, date of filing or issuance, and assigned reference number, if the variety or any component of the variety is protected by intellectual property right (Plant Breeder's Right or Patent).)

NOTES: It is the responsibility of the applicant/owner to keep the PVPO informed of any changes of address or change of ownership or assignment or owner's representative during the life of the application/certificate. There is no charge for filling a change of address. The fee for filling a change of ownership or assignment or any modification of owner's name is specified in Section 97.175 of the regulations. (See Section 101 of the Act, and Sections 97.130, 97.131, 97.175(h) of the Regulations and Rules of Practice.)

To avoid conflict with other variety names in use, the applicant must check the appropriate recognized authority. For example, for agricultural and vegetable crops, contact: Seed Branch, AMS, USDA, Room 213, Building 306, Beltsville Agricultural Research Center-East, Beltsville, MD 20705. Telephone: (301) 504-8089. http://www.ams.usda.gov/lsg/seed.htm

According to the Paperwork Reduction Act of 1995, an agency may not conduct or sponsor, and a person is not required to respond to a collection of information unless it displays a valid OMB control number for this information collection is 0581-0055. The time required to complete this information collection is estimated to average 3.0 hours per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information.

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To file a complaint of discrimination, write USDA, Director, Office of Civil Rights, Room 326-W, Whitten Building, 14th and Independence Avenue, SW, Washington, DC 20250-9410 or call 202-720-5964 (voice and TDD). USDA is an equal opportunity provider and employer.

ST-470 (02-10-2003) designed by the Plant Variety Protection Office with Word 2000. Replaces former versions of ST-470, which are obsolete.

ORIGIN AND BREEDING HISTORY OF THE VARIETY

EXHIBIT A

PEDIGREE: (SPEIGHT 116 X SPEIGHT 126) (K 346 X SPEIGHT 128)

NAME:

SPEIGHT 210

1992.

ORIGINAL CROSS MADE SPEIGHT SEED FARMS, INC. WINTERVILLE, NC.

PARENTAGE

A51 (SPEIGHT 116 X SPEIGHT 126)

SPEIGHT 116 1989 REGIONAL SMALL PLOT.

SPEIGHT 126 RELEASED IN 1992

A58 K346 X SPEIGHT G-28 K346 RELEASED IN 1988 SPEIGHT G-28 RELEASED IN 1969

- 1993. A51F1, AND A58F1 PLANTED IN CROSSING NURSERY.
 A51 MALE PARENT
 A51 X A58 DESIGNATED AS A101 F2 GENERATION
- 1994. F2 GENERATION PLANTS GROWN IN BLACK SHANK AND BACTERIAL WILT NURSERIES. SINGLE PLANT SELECTIONS MADE FOR RESISTANCE AND PLANT TYPE.
- 1995. F3 GENERATION PLANTS GROWN IN BLACK SHANK AND BACTERIAL WILT NURSERIES. AGAIN SINGLE PLANT SELECTIONS MADE FOR RESISTANCE AND PLANT TYPE. A101 WAS ALSO GROWN IN THE YIELD AND QUALITY PLOT. THERE IT WAS TESTED FOR YIELD, QUALITY, CHEMICAL COMPOSITION AND PLANT TYPE.
- 1996. F4 GENERATION PLANTS GROWN IN BLACK SHANK, AND BACTERIAL WILT NURSERIES. SINGLE PLANT SELECTIONS MADE FOR RESISTANCE AND PLANT TYPE. ALSO GROWN IN YIELD AND QUALITY PLOT. HERE IT WAS AGAIN TESTED FOR YIELD, QUALITY, CHEMICAL COMPOSITION AND PLANT TYPE.

ORIGIN AND BREEDING HISTORY OF THE VARIETY CONTINUED

EXHIBIT A

- F5 GENERATION PLANTS GROWN IN BLACK SHANK AND BACTERIAL WILT NURSERIES. SINGLE PLANT SELECTIONS WERE MADE FOR DISEASE RESISTANCE. DATA ON YIELD, QUALITY, CHEMICAL COMPOSITION AND PLANT TYPE OBTAINED FROM YIELD AND QUALITY PLOT. THE LINE WAS JUDGED TO BE UNIFORM AND STABLE AND ADVANCED TO F6 GENERATION. NO VARIANTS WERE OBSERVED.
- 1998. A 101 WAS NAMED SPEIGHT 210. F6 GENERATION SEED WAS PLANTED IN OFFICIAL VARIETY TESTS AS AN ADVANCED BREEDING LINE IN THE FIVE FLUE-CURED TOBACCO GROWING STATES. FIVE LOCATIONS IN NORTH CAROLINA AND ONE LOCATION EACH IN FLORIDA, GEORGIA, SOUTH CAROLINA AND VIRGINIA. FURTHUR TESTING WAS CONDUCTED IN SPEIGHT SEED FARMS FOR BLACK SHANK, BACTERIAL WILT, YIELD OF QUALITY AND CHEMICAL COMPOSITION. SINGLE PLANT SELECTIONS WERE AGAIN MADE FOR RESISTANCE. SPEIGHT 210 WAS JUDGE TO BE STABLE. IT COMPARED FAVORABLE TO THE NC2326 AND NC95 FOR YIELD, QUALITY AND CHEMICAL COMPOSITION. BLANC SHANK AND BACTERIAL WILT DISEASE INDEX WAS HIGHER THAN THA OF THE CHECK VARIETIES. NO VARIANTS WERE OBSERVED IN THE OFFICIAL VARIETY TEST OR AT SPEIGHT SEED FARMS, INC.
- SPEIGHT 210 WAS PLACED IN THE REGIONAL SMALL PLOT TEST (F7 GENERATION). THIS AGAIN INVOLVED TEST IN THE FIVE FLUE CURED TOBACCO GROWING STATES. TESTING CONTINUED ON SPEIGHT SEED FARMS FOR DISEASE RESISTANCE, YIELD, QUALITY AND CHEMICAL COMPOSITION. SINGLE PLANT SELECTIONS MADE FOR RESISTANCE. SPEIGHT 210 WAS GROWN IN LARGER ON FARM TEST PLOTS. SPEIGHT 210 PASSED THE SMALL PLOT TEST AND WAS RECOMMENDED FOR THE REGIONAL FARM TEST. THE LINE WAS ADVANCED TO F8. NO VARIANTS WERE OBSERVED.
- SPEIGHT 210 (F8GENERATION) WAS PLACED IN THE REGIONAL FARM TEST. THIS INVOLVED ON-FARM TEST IN FOUR FLUE-CURED TOBACCO GROWING STATES ON 12 FARMS. TESTING CONTINUED ON SPEIGHT SEED FARM IN LARGER ON -FARM PLOT, DISEASE NURSERIES AND YIELD AND QUALITY PLOTS. SINGLE PLANT SELECTIONS MADE IN DISEASE NURSERIES. A SEED CROP OF SPEIGHT 210 WAS GROWN ON SPEIGHT SEED FARMS AND CERTIFIED BY NORTH CAROLINA CROP IMPORVEMENT, PENDING RELEASE BY THE EVALUATION COMMITTE. THE REGIONAL VARIETY EVALUATION COMMITTE RECOMMENDED SPEIGHT 210 FOR RELEASE TO GROWERS. IT MET ALL THE REQUIREMENTS OF THE MINIMIUM STANDARS FOR RELEASE. NO VARIANTS WERE OBSERVED.

EXHIBIT A

- SPEIGHT 210 WAS PLACED IN THE OFFICIAL VARIETY TEST IN THE FIVE FLUE-CURED STATES. IT WAS ALSO GROWN ON SPEIGHT SEED FARMS AS AN EXPERIMENTAL CROP. SPEIGHT 210'S PERFORMANCE COMPARED FAVORABLE TO THAT OF ALL RELEASED VARIETIES. NO VARIANTS WERE OBSERVED.
- SPEIGHT 210 WAS PLACED IN THE OFFICIAL VARIETY TEST IN FIVE FLUE-CURED STATES. IT WAS GROWN AS AN EXPERIMENTAL CROP ON SPEIGHT SEED FARMS. SPEIGHT 210'S PERFORMANCE COMPARED FAVORABLE TO THAT OF ALL RELEASED VARIETIES. A SEED CROP OF SPEIGHT 210 WAS GROWN ON SPEIGHT SEED FARMS AND CERTIFIED BY THE NORTH CAROLINA IMPROVEMENT. NO VARIANTS WERE OBSERVED.
- SPEIGHT 210 WAS PLACED IN THE OFFICIAL VARIETY TEST IN FIVE FLUE-CURED STATES. IT WAS GROWN AS AN EXPERIMENTAL CROP ON SPEIGHT SEED FARMS. SPEIGHT 210'S PERFORMANCE COMPARED FABORABLE TO THAT OF ALL RELEASED VARITIES. A SEED CROP OF SPEIGHT 210 WAS GROWN ON SPEIGHT SEED FARMS AND CERTIFIED BY THE NORTH CAROLINA IMPROVEMENT. NO VARIANTS WERE OBSERVED.

FALL 2003 SPEIGHT 210 RELEASED TO GROWERS.

SPEIGHT 210 WAS PLACED IN THE OFFICIAL VARIETY TEST IN FIVE FLUE-CURED STATES. IT WAS GROWN AS A CROP ON SPEIGHT SEED FARMS. SPEIGHT 210'S PERFORMANCE COMPARED FABORABLY TO THAT OF ALL RELEASED VARITIES. A SEED CROP OF SPEIGHT 210 WAS GROWN ON SPEIGHT SEED FARMS AND CERTIFIED BY NORTH CAROLINA CROP IMPROVEMENT. NO VARIENTS WERE OBSERVED.

STATEMENT OF DISTINCTNESS

EXHIBIT B

TO OUR KNOWLEDGE SPEIGHT 210 MOST NEARLY RESEMBLES NC 2326 AND K346.

SPEIGHT 210 COMPARED TO NC 2326

- 1. SPEIGHT 210 HAS HIGH RESISTANCE TO BLACK SHANK, BACTERIAL WILT AND ROOT KNOT.

 NC 2326 IS SUSCEPTABLE TO BACTERIAL WILT, ROOT KNOT AND HAS LOW RESISTANCE TO BLACK SHANK.
- 2. SPEIGHT 210 FLOWERS NINE DAYS LATER THAN NC 2326.
- 3. SPEIGHT 210 HAS AN INTERMEDIATE FLOWER HEAD NC 2326 HAS AN OPEN FLOWER HEAD.
- 4. SPEIGHT 210 YIELDS 28% MORE THAN NC 2326.
- 5. SPEIGHT 210 HAS 2 MORE LEAVES THAN NC 2326.
- 6. SPEIGHT 210 HAS A HIGHER CURED LEAF INDEX THAN NC 2326.
- 7. THE LEAF COLOR OF SPEIGHT 210 IS LIGHT GREEN. THE LEAF COLOR OF NC 2326 IS DARK GREEN.
- 8. THE LEAF LENGTH OF SPEIGHT 210 IS LONGER THAN NC 2326 AND WIDER THAN NC 2326.

SPEIGHT 210 COMPARED TO K346

- 1. SPEIGHT 210 HAS A SLIGHTLY LOWER RESISTANCE TO BLACK SHANK THAN K346.
- 2. SPEIGHT 210 HAS HIGHER RESISTANCE TO BACTERIAL WILT THAN K346.
- 3. SPEIGHT 210 HAS A SMOOTH LEAF SURFACE COMPARED TOA PUCKERED LEAF SURFACE FOR K346.
- 4. THE LEAF COLOR OF SPEIGHT 210 IS LIGHT GREEN. THE LEAF COLOR OF K346 IS GREEN.
- 5. THE CURED LEAF GRADE INDEX OF SPEIGHT 210 IS 68; WHERE AS THAT OF K346 IS 65 (3 POINTS DIFFERENCE).
- 6. SPEIGHT 210 YIELDS 37% MORE THAN K346.
- 7. THE LEAF SHAPE OF SPEIGHT 210 IS LONGER AND NARROWER THAN OF K346.

ANALISIS WHITEVILLE, ROCKY MOUNT, KINSTON, OXFORD, NC: BLACKSTONE, VA., TIFTON, GA., FLORENCE, SC. - 1999. PAGE 4 TABLE 2 REGIONAL SMALL PLOT COMBINED COMMITTE REPORT FLUE CURED TOBACCO VARIETY

VARIETY	YIELD LBS/A	GRADE INDEX	TOTAL ALK %	RED SUG TA.	RED SUGAR %	PLANT HGHT IN.	LEAF No.	DAYS TO FLOWER	
NC 2326	2362	53	4.09	3.54	13	36.8	16.3	65	
SPEIGHT 210	2805	6.4	3.41	4.73	14.7	36.2	18.4	74	

FLUE CURED TOBACCO VARIETY EVALUATION COMMITTE. REPORT 1999. TABLE 14, PAGE 25 FLUE CURED. TOBACCO DISEASE RESISTANCE RATINGS - 1999.

VARIETY	BLACK SHANK 2	BACTERIAL WILT 2	ROOT KNOT 3
NC 2326	25.1	20	susc.
SPEIGHT 210	0.•S	8	RES.

- HIGHER NUMERICAL RATINGS INDICATE GREATER SUSCEPTIBILITY.
- FOR BLACK SHANK AND BACTERIAL WILT, A DISEASE INDEX AVG. FOR THE REGION IS GIVEN.THIS INDEX REFLECTS BOTH THE PERCENTAGE OF PLANTS DISEASED AND THE TIME DURING THE GROWING SEASON WHEN SYMPTOMS APPEARED.
- ROOT KNOT (MELOIDOGYNE INCOGNITA) NOTATIONS ARE MADE IF THE ENTRY IS CARRYING RESISTANCE OR IF IT IS SUCEPTIBLE. 3

GEORGIA, SOUTH COMPARISION OF ENTRIES IN REGIONAL FARM TEST - VARIETIES COMBINED OVER NORTH CAROLINA, AND VIRGINIA 2000. TABLE 10. CAROLINA,

the second second		
USUABLE %	36.6	56.4
TOT. NIT.	2.43	2.27
RED. SUG.	13.5	16.4
RED. SUG. NIC.	5.00	7.14
NIT. NIC.	0.88	0.97
TSA /TA %	7.1	7.9
TOT. ALK. %	3.05	2.61
TOT. SEC. ALK.	0.22	0,20
NIC. %	2.83	2.40
INDEX \$/ CWT.	163.199	171.57
VALUE \$/A	4195	5566
YIELD LBS/A	2544	3244
VARIETY	NC2326	SPEIGHT: 210

PAGE 27 TABLE 14 FLUE CURED TOBACCO DISEASE RATINGS

ROOT KNOT 3	SUSC.	RES.
BACTERIAL WILT	81 1	38 2
BLACK SHANK	68.7 1	11.7 2
VARIETY	NC 2326	SPEIGHT 210

- HIGHEAR NUMERICAL RATINGS INDICATE GREATER SUSCEPTIBILITY.
- FOR BLACK SHANK AND BACTERIAL WILT, A DISEASE INDEX AVG. FOR THE REGION IS GIVEN. THIS INDEX REFLECTS BOTH THE PERCENTAGE OF PLANTS DISEASED AND THE TIME DURING THE GROWING SEASON WHEN SYPTOMS APPEARED. 2
- ROOT KNOT (MELOIDOGYNE INCOGNITA) NOTATIONS ARE MADE IF THE ENTRY IS CARRING RESISTANCE OR IF IT IS SUSCEPTIBLE. ٠. ج

TABLE 3-3 PERFORMANCE OF COMERCIAL VARIETIES INTHE NORTH CAROLINA OFFICIAL VARIETY TEST, COMBINED OVER. FOUR LOCATIONS (2003).

YIELD LB/A	D VALUE	PRICE INDEX \$CWT.	GRADE INDEX	DAYS TO FLOWER	LEAVES PER PLANT	PLANT HEIGHT INCHES	LEAF SPACING INCHES	Cured RED. SUG.	Leaf Al TOT. ALK.	Cured Leaf Analysis RED. TOT. RATIO SUG. ALK. SUG. % ALK.
2,342	4023	170.30	8.9	79	17.4	38	2.23	16.58	16.58 2.60	7.62
2280	3802	165:45	65	79	17.6	388	2.19	15.48	15.48 2.52	7.41
STANC	E RAT	TABLE 9-4 RESISTANCE RATINGS OF VARIETIES TO BLACK SHANK AND BACTERIAL WILT.	ARIETIES	TO BLACK	SHANK A	ND BACTE	RIAL WILT	•		

ROOT KNOT NEMATODE	RESISTANT	RESISTANT
BACTERIAL	24	16
BLACK SHANK	13	17 ·
VARIETY	K346	SPEIGHT 210

- 1. HIGHER NUMERICAL RATINGS INDICATE GREATER SUSCEPTIBILITY,
- FOR BLACK SHANK AND BACTERIAL WILT, A DISEASE INDEX AVG. FOR THE REGION IS GIVEN. THIS INDEX REFLECTS BOTH THE PERCENTAGE OF PLANTS DISEASE AND THE TIME DURING THE GROWING SEASON WHEN SYMPTOMS APPEARED.
- ROOT KNOT (MELOIDOGYNE INCOGNITA) NOTATIONS ARE MADE IF THE ENTRY IS CARRYING RESISTANCE OR IF IS SUSCEPTIBLE. . ش

U.S. DEPARTMENT OF AGRICULTURE AGRICULTURAL MARKETING SERVICE

OBJECTIVE DESCRIPTION OF VARIETY Tobacco (Nicotiana tabacum)

SPEIGHT SEED FARMS, INC. EXPERIMENTAL DESIGNATION(S) VARIETY NAME OR SPEIGHT 210 DESIGNATION	
SPEIGHT SEED FARMS INC. LODBIGING ON LOBSIGNATION	EMPORARY
	10
State, and Zip Code)	
FOR OFFICIAL	USE ONLY
P O. BOX. 1250, WINTERVILLE, NG. 28590	66
INSTRUCTIONS: Place the appropriate number that best describes the varietal character of typical plants in the blocks below. The symbol Adecimal. Present data for Standard Varieties as requested.	indicates a
STANDARD VARIETIES AND CODE NUMBERS	
01 = NC 95	
AREA OF ADAPTATION 16 = Other	·
1. CLASS	
1 = Flue-cured 3 = Burley 5 = Dark/air-cured 7 = Cipar binder	-
2 = Fire-cured 4 = Maryland 6 = Cion-Silla-	
2. MATURITY (Transplant to 50% plants 1 fl.) (Select code from Standard Varieties listed above)	
7 4 No. of days	
No. of days earlier than	
1 = Early (NC 2326, MS KY 14 X L8, MS B 3 2 = Medium (NC 95, Speight G-28, Coker 3)	u 37 X L8)
Flowering same as I I I MS Bu 21 X KY 101	
3 = Late (NC 50, Coker 298, VA 509, R7-1) 4 = Very Late (NC 22NF, Bu 64)	0 .
1 10	
3. PLANT HEIGHT (Select code from Standard Varieties listed above)	
TOPPED NORMAL NOT TOPPED (Height to crowfoot)	
	•
9 7 5 cm tall	
2 4 9 cm shorter than	- -
topped height same as	0 2
cm taller than.	
Height Class:	
2 1 = Short (Speight G-28, Bu 49, Bu 64)	
L_2 = Medium (NC 95, NC 2326, Coker 319, KV 14, KV 17)	Ŧ
3 = 1 at (Corer 48, Corer 298, C1 501, Bu 21, R7-11)	
4. LEAF SIZE AND ANGLE (At leaf maturity of harvestable leaves counting from the bottom of plant) (Select code from Standard Varieties I.	interd at a second
	ated doobej:
5TH LEAF 10TH LEAF 15TH LEAF	
7 5 1 cm length 6 7 5 cm length	
cm shorter than cm shorter than cm shorter than	
length same as	
6 8 cm longer than	
0 2 5 0 cm longer than 0 2 8 6 cm longer than	1101
Leaf Length Class (10th leaf or center of plant):) 2
O Com longer than	0[2]

4. LEAF SIZE AND ANGLE (cont'd)		
WIDTH - 5TH LEAF	WIDTH - 10TH LEAF	2005 0 0MD th 15TH LEAF
3 9 1 cm width	3 9 6 cm width	3 5 1 cm width
cm nerrower than.	cm nerrower than .	cm narrower than.
width same as	width same as	width same as
546 cm wider than 0 2	4 5 cm wider than 0 2	4 2 cm wider than 0 2
Leaf Width Class (10th leaf or center of p	plant)	
1 = Very Narrow 2 = Narrow (NC 2326, Bu 64, KY 10) 3 = Medium (Coker 319, MS Bu 21 X KY 4 = Broad (NC 13, Coker 139, MS Bu 21) 5 = Very Broad	X L8. CL 59)	
LEAF ANGLE (Upper angle between stalk and lea	f when turgid)	
5TH LEAF	10TH LEAF	15TH LEAF
45 degrees	4 5 degrees	4 5 degrees
degrees less than.	degrees less than,	degrees less than
angle same as 0 2	angle same as 0 2	angle same as 0 2
degrees more than,	degrees more than,	degrees more than.
2 Leaf Angle Class (10th leaf or center of plate 1 = Upright (35 degrees) (Speight G-70, 2 = Medium Upright (35 - 45 degrees) (NC 3 = Medium Drooping (46 - 65 degrees) (C 4 = Drooping (65 degrees)	K 399, Bu 49, Bu 64)	
5. LEAF YIELD (Select code from Standard Varieties listed above)	6. LEAF NUMBER (Not including 2 bed leaves)	(Select code from Standard Varieties listed above)
various nateu abuve;	TOPPED NORMAL	NOT TOPPED (No. of leaves or nodes to crowfoot from 1st harvestable leaf)
3 6 3 2 kg/ha yield	2 1 6 No. per plant	2 4 6 No. per plant
% less yield than, .	No. leaves less than .	No. leaves less than .
yield same es	Leaf no. same as	Leaf no. same as
2 8 % more yield than. 0 2	2 0 No. leaves more than 0 2	3 8 No. leaves more than 0 2
7. INTERNODES AND STALKS (Plants topped norm.	al) (Select code from Standard Varieties listed above	ve)
4 5 mm length		
1 7 mm shorter than . 0 2		
Internodes same as		
mm longer than		
2 Internode Length Class	Stalk Diameter Class	
1 = Short (Speight G-28, Bu 64, Bu 49) 2 = Medium (Coker 319, KY 14) 3 = Long (NC 2326, MS Bu 21 X L8)	1 = Small (KY 14, MS Bu 2 = Medium (MS KY 14 X	(L8, R7-11)
	3 = Large (VA 509, KY 1	7)

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8. LEAF CHARACTERISTICS			<u> </u>
	<u></u>		
LEAF CARRIAGE (Midrib)	1 TIP SHAPE		2 LEAF MARGIN
1 = Arched	1 = Acute (M)	D 64)	
2 = Not arched (Coker 347, Bu 21)	2 = Acuminate	(Speight G-70, McNair 373,	1 = Wavy (McNair 944, MD 59) 2 = Not wavy (McNair 373, Speight G-70)
	Coker 48)	D 872, Reams 64, NC 13)	2 / 1 a. 2 (2.70)
1	3 - Objuse (M	D 612, Reams 64, NC 13)	
LEAF COLOR	Z VENATION P	ATTERN	2 LEAF MARGIN CURVING
1 = Light green (Coker 298, K 399, MD 60	09) 1 = Square (Ma	cNair 944)	<u> </u>
2 = Green (NC 95, Coker 48) 3 = Dark green (MD 10, MD 201, KY 14,		peight G-70, Hicks)	1 = Recurved (MD 59) 2 = Not recurved (Speight G-70, McNair 373)
KY 15)		•	2 Total Total (Special S-70, Incivair 373)
1 LEAF SHAPE			
<u> </u>		CE (Web, Rugosity)	•
1 = Broadest at middle of leaf (Coker 176) 2 = Broadest below middle (K 399,		icks, Speight G-70)	
McNair 373)	2 = Puckered (I	VC 95)	
3 = Broadest above middle (Speight G-140))		•
•	•		
9. FLOWERS	10. PLANT FORM		
	I CART I ONIII		11. GROUND SUCKERS (Select code from Standard Varieties)
2 COLOR	1		varieties/
1 = White	1 = Pyramidal (Coker 176)	O O No. per plant
2 ≈ Pink	2 ≈ Columnar (1	K 326, Bu 49, Bu 64)	
3 = Red	3 = Inverted cor 4 ≈ Other	ne	No. per plant less than
4 = Other (Specify)	, Julie,		
2 FLOWER HEAD HABIT			No. per plant same as 0
		1	
1 = Closed (NC 95, Bu 21)		.]	No, per plant more than .
2 ≈ Intermediate (NC 89)		·	The state of the s
3 = Open (Hicks, NC 2326)	•		
12. DISEASE	· · · · · · · · · · · · · · · · · · ·		The state of the s
0 = Not tested 2 = Low resistance 1 = Susceptible 3 = Moderate resistance		gh resistance	
1 = Susceptible 3 = Moderate res	istance	•	
4 Black Shank (Phytophthora parasitica var. ni	icotianae race (1)	4	
	À.	Bacterial Wilt (Granu	ille Wilt) (Pseudomonas solanacearum)
Black Shank (Phytophthora parasitica var. ni	icotianae race 1)	O Potato Virus Y (Vein	banding)
Black Root Rot (Thielaviopsis basicola)		O Tobacco Vein Mottlii	10
	•	O TODACCO VAIN MOTTIN	ng virus (1 VM V)
Blue Mold (Peronospora tabacina)		1 Tobacco Mosaic Virus	s (TMV)
Wildfire (Pseudomonas tabaci)		O Tobacco Etch Virus	•
O Branchistan and a suit	•	O Tobacco Etch Virus	
Blackfire or Angular Leaf Spot (Pseudomono	os angulata)	Oyst Nematode (Hete	rodera tabacum)
O Fuserium Wilt (F. oxysporum var, nicotianae,	,	Nemetode Rose Base	(I giglon) (Produlers of the second
		1. 0	(Leision) (Pratylsenchus spp.) Species
Fuserium Wilt (F. oxysporum var. batatas)		4 Root Knot Nematode	(Meloidogyne spp.) Species INCOGNITA
() Frogeye (Cercospora nicotianae)	<i>t</i>	Ozone Air Pollution (
O Brown Spot (Alternaria alternata)	.	 	
(Alternaria alternata)	•	Other (Specify)	
		Other (Specify)	
· ·			
13. LEAF CONSTITUENTS (Give data for applicat	tion and a Standard Vester		
The control applicat	aon and a Standard Variety	7	
2 4 0 % Nicotine	2 8 3 %	Nicotine (standard) 02	
		THEOLING (SEBRESE B)O 2	
2 0 % Nor Nicotine	22 %	Nor Nicotine (standard) 02	
		(VICOLINO (SEGNAGOO) U.Z.	
2 7 % Total Nitrogen		Total Nitrogen (standard)	2
	2 A4 3 7°	otal Mitrogen (standard)()	<u></u>
1 6 4 % R. Sugars Flue-cured	1 3 - 1 2.	R. Sugars Flue-cured (standard	. 02
- I de-cured	1 3 5 %	n. Sugars rive-cured (standard	17_
FORM LS-470-31 (FEB 86)			, , , , , , , , , , , , , , , , , , , ,
			

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- 14. GIVE VARIETY OR VARIETIES THAT MOST CLOSELY RESEMBLE(S) THE APPLICATION VARIETY. (For the following characteristics indicate "Degree of Resemblance" by placing in the column marked "D.R.," one of the following numbers)
 - 1 = Application variety is less than comparison variety
 - 2 = Same as
 - 3 = More than, better, greater, darker, etc.

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CHARACTERISTICS	VARIETWAL				
Flowering	VARIETY(S)	D.R.	CHARACTERISTICS	VARIETY(S)	D.R.
Leaf length	K346		Leaf tip shape	K346	
Leaf width	NC2326	<u>3</u>	Venation pattern	K346	
Leaf carriage	NC2326	<u> </u>	Leaf surface	NC2326	
Petiole angle	NC2326		Leaf margin	K346	2
Leaf shape	NC2326		Leaf color	K346	1
COMMENTS (Describe all characters)	K346	<u>. J</u>	Plant form	K346	2

15. COMMENTS (Describe all characters and conditions that cannot be adequately described in this form (lodging resistance disease ratings compared to

SPEIGHT 210 MOST RESEMBLES K346 FOR CERTAIN CHARACTERISTICS AND NC2326 FOR OTHERS.

SPEIGHT 210 RESEMBLES K346 FOR FLOWER HEAD HABIT, LEAF TIP SHAPE VENATION PATTERN, LEAF MARGIN AND PLANT FORM. SPEIGHT 210 HAS A SLIGHTLY LOWER BLACK SHANK RESISTANCE AND A HIGHER RESISTANCE FOR BACTERIAL WILT THAN DOES K346. BOTH VARIETIES ARE RESISTANT TO ROOT KNOT NEMATODES.

SPEIGHT 210 HAS A LEAF COLOR OF LIGHT GREEN; WHERE AS THAT OF K346 IS GREEN.

THE LEAF SHAPE OF SPEIGHT 210 IS LONGER AND NARROWER THAN THAT OF K346.

SPEIGHT 210 RESEMBLES NC2326 FOR LEAF CARRIAGE, PETIMLE ANGLE, AND LEAF SURFACE. THE LEAF LENGTH OF SPEIGHT 210 IS LONGER THAN THAT OF NC2326.

THE LEAF WIDTH OF SPEIGHT 210 IS WIDER THAN THAT OF NC2326. NC2326 IS SUSCEPTABLE TO BACTERIAL WILT AND ROOT KNOT NEMATODES, AND HAS LOW RESISTANCE TO BLACK SHANK.

SPEIGHT 210 HAS HIGH RESISTANCE TO BLACK SHANK, BACTERIAL WILT AND ROOT KNOT NEMATODES. SPEIGHT 210 HAS AN INTERMEDIATE FLOWER HEAD AND NC2326 BY 28%. THE LEAF COLOR OF SPEIGHT 210 IS LIGHT GREEN AND THE LEAF COLOR OF NC2326 IS DARK GREEN.

U.S. DEPARTMENT OF AGRICULTURE		FUKIM AMPKUVED - UMB NO. 0581-0058
AGRICULTURAL MARKETING SERVICE EXHIBIT E	Application is required in order to de certificate is to be issued 77.1.5.0.3	termine if a plant variety protection
STATEMENT OF THE BASIS OF OWNERSHIP	confidential until the certificate is issue	ued (7 U.S.C. 2426).
1. NAME OF APPLICANT(S)	2. TEMPORARY DESIGNATION	3. VARIETY NAME
SPEIGHT SEED FARMS, INC.	OR EXPERIMENTAL NUMBER SPEIGHT 210	SPEIGHT 210
4. ADDRESS (Street and No., or R.F.D. No., City, State, and ZIP, and Country)	5. TELEPHONE (Include area code)	
SPEIGHT SEED FARMS, INC. 3719 SPEIGHT SEED FARM ROAD.	252 756-07-18	6. FAX (Include area code) 252 756-86-99
PO. BOX. 1250		<u></u>
WINTERVILLE, NC. 28590		00500066
8. Does the applicant own all rights to the variety? Mark an "X" in the	3 3 (200200
The state of the s	e appropriate block. If no, please expla	in. X YES NO
		-
9. Is the applicant (individual or company) a U.S. national or a U.S. ba	ased company? If no, give name of a	Nuntry CTI VEC
	the state of the s	ountry. X YES NO
10. Is the applicant the original owner?	NO If no, please answer one	EAL EN
<u> </u>		
a. If the original rights to variety were owned by individual(s), is (a	are) the original owner(s) a U.S. Nations	al(e)?
YES	NO If no, give name of country	y Y
b. If the original rights to variety were owned by a company (i.e.)	T- (•
b. If the original rights to variety were owned by a company(ies),	NO If no, give name of country	ed company?
LXI	give hame of country	
11 Additional evaluation		
11. Additional explanation on ownership (Trace ownership from original	al breeder to current owner. Use the re	verse for extra space if needed):
		9
		•
PLEASE NOTE:		
Plant variety protection can only be afforded to the owners (not license	ees) who meet the following criteria.	
1. If the rights to the voriety are owned by the artist of the	es) who meet are ibnowing chiena:	
 If the rights to the variety are owned by the original breeder, that per national of a country which affords similar protection to nationals of t 	rson must be a U.S. national, national or the U.S. for the same genus and specie	f a UPOV member country, or
If the rights to the variety are owned by the company which employe nationals of a UPOV member country, or owned by nationals of a co genus and species.		• •
If the applicant is an owner who is not the original owner, both the or	iginal owner and the applicant must me	et one of the shove criteria
The original breeder/owner may be the Individual or company who direct for definitions.	cted the final breeding. See Section 41	(a)(2) of the Plant Variety Protection

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